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St. Bartholomew's Hospital Journal,

APRIL, 1903.

"Æquam memento rebus in arduis
Servare mentem."—*Horace*, Book ii, Ode iii.

A Physician and his Poem.

By J. C. LEWIS.

IN the year 1483 was born at Verona Jerome Fracastorio, one of the most brilliant scholars of his time. The friend of Bembo, Scaliger, he was distinguished alike as poet, philosopher, physician, astronomer, and mathematician. He was the descendant of an ancient Veronese family, and of his early life two interesting facts are preserved. The first was that at his birth his lips were joined together by a membrane, which circumstance was celebrated by J. C. Scaliger by the following Latin epigram:

Os Fracastorio nascenti deficit, ergo
Sedulus attentâ finxit Apollo manu
Inde hauri, medicusque ingens, ingensque poeta,
Et magno facies omniplena Deo.

This has been thus rendered into English:

Thine infant lips, Fracastor, nature sealed,
But the mute organ favouring Phœbus healed.
He broke the chain, and hence to thee belong
The art of healing and the power of song.

The second was that his mother one day walking with him was struck dead by a thunderbolt, whilst the child she carried escaped unhurt. On account of these circumstances a brilliant future was prophesied for him. He became a disciple of Pomponazzo, and at the age of nineteen was awarded the laurel wreath at Padua, and installed there as Professor of Logic. His inclinations turned him, however, towards medicine. He was intimately associated with Barthelemeo Alviano, the brilliant Venetian General who founded the Academy of Pordenonne in the Frioul, and he became one of the members there. Amongst his companions here were Andre Navagero and Andre Cotta, who with him were afterwards acclaimed as the three greatest poets of their time. He later became physician to Pope Paul III, and it was in this capacity that he attended the Council of Trent. Owing to his representations concerning the dangers to be apprehended from the plague, inspired it is said by the Pope, who feared the proximity of the Emperor, the scene of the labours of the Council was transferred to Bologna. Eventually he settled down near Verona, and devoted himself to the practice of medicine and to poetry. In his medical practice he never took fees, and was renowned far and wide alike for his skill and his charity. He discovered the drug diascordium, a preparation of which was for centuries in use, and was called after him "Confectio Fracas-

toriæ." He is known to have been acquainted with the use of two lenses before the invention of the telescope. He died at Caphi in the year 1553, at the age of seventy, and was buried in the church of St. Euphemia at Verona. A French writer tells us that "presque tous les Poëtes du temps jétèrent des fleurs sur sa tombe." A statue was erected to him at Padua by J. B. Rhamnasius, and his fellow-townsmen of Verona honoured him in the same way. He is said to have been a most prolific writer, and amongst those works which have been preserved are—

1. *Syphilis, sive morbus Gallicanus.*

2. *De contagionibus et contagiosis morbis et eorum curatione*, which is interesting for three reasons:

(*a*) He speaks of phthisis being communicated by means of articles used by patients.

(*b*) He recommends use of antiseptics.

(*c*) His condemnation of bleeding and use of purgatives in malignant fevers.

3. *De vini temperaturâ.*

4. *Homo centricorum, sive de stellis liber unus.*

By far the greatest of these is the first. It raised his reputation to such a height that he was considered the greatest Latin poet since Virgil, and that by such severe critics as Scaliger and Saunazaro. It was translated into English verse by Tate, and published by Jacob Souson in the third part of his *Miscellany Poems* in 1693. The translation is dedicated to Dr. Thos. Hobbs.

The poem begins with an explanation of the author's plan. After a short appeal to Bembus, the Secretary to Pope Leo, he proceeds to discuss the origin of the disease. He rejects the idea of it having been brought from the West, and deftly and quaintly interlacing his theory with mythology explains that it originates in the air. He notices the fact that only the human species is attacked:

> The proud destroyer seeks no common game;
> . . . . .
> . . . . .
> . . . . .
> The lords of nature only he annoys,
> And human frames, Heav'n's images, destroys.

This assertion was contradicted by Scaliger, who maintained having seen a dog contract the disease.

Now the symptoms and signs of the disease are enumerated, the incubation period being fixed thus:

> For when the foe his secret way has made,
> And in our entrails strong detachments laid,
> Yet oft the moon four monthly rounds shall steer
> Before convincing symptoms shall appear.

The author is insistent on the malaise, and treats this point effectively thus:

> Yet with disturbance to the wretch diseased,
> Who with unwonted heaviness is seized,
> With drooping spirits his affairs pursues,
> And all his limbs their offices refuse;
> The cheerful glories of his eyes decay,
> And from his cheeks the roses fade away;
> A leaden hue o'er all his face is spread,
> And greater weights depress his drooping head.

After describing the course of the disease at length, and bemoaning the fact that after all the troubles Italy has gone through she has become a prey to this scourge, he goes on to prescribe a course of treatment. First of all he places fresh air and exercise, and was of one mind with the late Mr. Gladstone as to the best form for it to be taken in, for he says,—

> With heavy axe and many a weary blow,
> The towering pine and spreading oak o'erthrow.

Next he considers the question of diet:

> All food that from the Fens is brought refuse,
> Whate'er the standing lakes or seas produce;
> Nor must long custom pass for an excuse,
> Therefore from fish in general I dissuade.

He goes on—

> All sorts of fowl that on the water prey,
> By the same rule I have removed away;
> Forbear the drake, and leave Rome's ancient friend
> The Capitol and city to defend.

After enumerating other foods which are to be avoided, he proceeds to lay down a diet which should delight the vegetarian's heart:

> But if your banquets with the gods you'd make,
> Of herbs and roots the unbought dainties take.

In the spring and also in autumn, if strength suffices, the patient should be bled in the "regal vein." However, it is on mercury that he relies chiefly, and recommends that it should be taken by inunction. He relates a pretty mythological tale accounting for its discovery. Ilceus the herdsman, in order to do honour to the nymph Callinhoe, has slain a stag, and with its head adorned a tree near her stream. This stag to please her has stricken Ilceus with the dread disease. He appeals to Callinhoe, who tells him how to procure relief. He must sacrifice a jet-black ram at the entrance to a cave, and the nymphs will conduct him into the entrails of the earth, where alone the remedy can be found. He does so, is washed in quicksilver, and cured.

The greater part of the remainder of the poem is devoted to a panegyric of guaiacum, and recounts the story of its discovery.

Syphilus, a herdsman, angry at the loss of his flock owing to drought, curses the sun, and raises altars to his king Alcithous, whom he worships.

Phœbus, incensed,—

> Darts forth such pestilent malignant beams,
> As shed infection on air, earth, and streams,
> From whence this malady its birth received.

Syphilus is the first victim, but soon infection spreads. Anunerice, the chief priestess, is consulted, and her advice being followed, and sacrifices to the gods having been made, a grove of guaiacum trees arises before the eyes of the astonished people, and the course of the disease is thus arrested.

This poem was first published about the year 1521.

Tuberculosis in Children.

By Clive Riviere, M.D.Lond.

THE successful clinician is of necessity a ghost seer! The patient with his signs and symptoms walks in broad daylight for all to see, but to the educated eye another presence stalks beside him closer than his shadow, and, though subjective only, yet not less real than the objective companion it accompanies. This ghost is the image of the pathological condition underlying the symptoms of disease, and the man who sees it not clearly, and keeps it not in view, can never be a sound clinician. For this reason I make no apology for setting before you afresh some of the well-known pathological materials from which this "ghost" may be raised up when next a tubercular child appears before you—knowing full well that though I give you nothing new, yet the old dry facts can never be over-studied or uselessly relearnt.

The subject of tuberculosis is so vast, and so much work has been done within its bounds, that but few aspects of it can be touched on in any detail in a paper such as this. My object will be to give some slight outline of its origin and spread within the body, and to compare, as far as possible, its manifestations in childhood with those with which all are familiar in adult life.

The tubercle bacillus, to begin at the beginning, was discovered, as you all know, by Robert Koch in 1882, but its appearance was hopefully predicted by many long before this. As early as 1865 the infective nature of the disease was shown experimentally by Villemin, and afterwards confirmed by Cohnheim. At about the same time as Koch's discovery the bacillus was demonstrated *in situ* in the tubercular foci by Baumgarten. He showed how it multiplies, stimulates the fixed cells, whether epithelial or connective-tissue cells, to proliferate, forming the so-called "epithelioid cells," and how from irritation, probably by toxins, of the surrounding blood-vessels an invading army of leucocytes is poured out at the periphery of the tubercle. He further showed how, when the bacilli were active and numerous, caseation rapidly occurred, while if they were few in number the tissues overcame and shut them in with a new formation of fibrous tissue.

But before the bacillus can set up these changes it has to find an entrance into the organism. This it may do in any of four ways:

(*a*) By means of the placenta to the fœtus *in utero*.

(*b*) By inoculation, as in post-mortem warts and possibly lupus.

(*c*) By inhalation.

(*d*) By feeding.

The first two modes of entry are rare, and all that need be said about them here is that they certainly do occur. The last two are the common modes of entry, and must be dealt with in more detail.

Inhalation, we all know, is the mode by which the tubercle bacillus is introduced in the phthisis of adults. In this manifestation of tuberculosis the bacilli start their growth at the terminations of the air-tubes, whether in the smallest bronchi or the alveoli, or in the neighbouring lymphatics. In children the inhalation disease presents somewhat different features. In children above six years, and rarely in earlier life, the disease may take the form of true phthisis as in adults, though even here certain differences are observable, and will be referred to later. In children during the first dentition the picture is different; the primary focus of disease is in the tracheal or bronchial glands, not in the lung, and the bacilli reach them either through the uninjured mucous membrane of the trachea or larger bronchi, or by the deep parts of the lung through an uninjured surface, or from a small lesion which afterwards heals. From the pulmonary glands the disease spreads to the lungs and the body generally.

So much for inhalation as it affects the lungs primarily, but it must not be forgotten that inhaled particles alighting in the mouth, and tubercle bacilli that have been coughed up from the lungs or bronchi, may infect the mouth or be swallowed and so act like tubercle bacilli in food.

Of *food* as a means of infection, and especially cow's milk, we must speak with some reserve since the important statement of Koch, delivered at the Tuberculosis Congress of 1901. Whatever the truth of the matter may be, there is no doubt that the intestines offer primary entrance to the disease in a certain percentage of cases, whether from milk contaminated with bovine tubercle bacilli, or from swallowed dust containing the bacillus of human tuberculosis, but not in my experience with the frequency quoted by some. I hope to return to the discussion of this subject towards the close of my paper.

Tuberculosis in children is not common under six months of age, but cases do occur apart from infection *in*

utero. The disease becomes much commoner after the first year of life.

The following division may be made for convenience:

(*a*) Cases of phthisis in children, mostly occurring during the second dentition.

(*b*) Cases of type peculiar to early childhood or cases of the first dentition.

(*a*) In the older children, generally over six years of age, the manifestations of tuberculosis approach more nearly to those seen in later life. The child may have an ordinary chronic phthisis with cavity formation, which differs little from that seen in adults, but presents also some peculiarities. Thus hæmoptysis is rare, and though there may be expectoration the tubercle bacillus can rarely be demonstrated in it. The signs begin at the apex of the lung and spread downwards as in adults, but the disease runs a more rapid course as a rule, and may end acutely with tubercular meningitis or general tuberculosis. Four to six months is a common time limit, but cases may be very acute from the onset with symptoms of broncho-pneumonia, and run their course in one or two months, or, on the other hand, may be very chronic, with much development of fibrous tissue, and may extend over many years. Many cases, I believe, recover completely. Abdominal tuberculosis, as a complication, is much more common than in adults; on the other hand, tubercular laryngitis is very rare. After death caseous tubercles are commonly found scattered through the other organs—the liver, spleen, kidneys, etc.

The younger class of cases is distinguished by the following characteristics:

1. The great frequency of tuberculosis of lymphatic glands.

2. The frequency of abdominal tuberculosis.

3. The frequency of tubercular meningitis and caseous nodules in the brain.

4. The frequency with which general tuberculosis supervenes.

As a general rule, children show less resistance to the inroads of the disease than do adults. It tends to be more widely spread, the lymphatics carrying the *materies morbi* with great readiness, and as the signs in children are much less striking the diagnosis is generally more difficult.

Tuberculosis of lymphatic glands forms the commonest lesion in childhood, and arises first in the glands draining some mucous area, whether cervical, bronchial, or mesenteric. Tuberculosis of the cervical glands, otherwise called scrofula, is very common, and your experience of it in the out-patient department of this hospital is probably extensive.

The entrance of the bacillus is most commonly by the tonsils or from the mucous membrane of the mouth, either without a lesion or with a lesion which quickly heals.

In 1878 Cohnheim first suggested that scrofula might be due to poison absorbed in the mouth (from food, especially milk, he thought), and the truth of this has been since then many times demonstrated.

In 1884 Strassman found tubercular deposits in the tonsils of a phthisis patient, and later Orth found them in the tonsils of children suffering from scrofula but with no lung tubercle. He also experimentally produced tuberculosis of the neck glands in rabbits by feeding with tubercle bacilli, and of these rabbits some were found to have disease of the tonsils as a primary focus, and some tubercular ulceration of the mouth. These experiments were repeated in the same year by Baumgarten with a similar result. Emil Schlenker has found tuberculosis of the tonsils in phthisis cases, and shows that with little lung disease, or where the patient is too young to expectorate the tonsils generally escape, though the intestines may become diseased, as the sputum may be swallowed though it is not coughed out. On the other hand, he finds cases of tuberculosis of the tonsils and intestines in children, which he attributes to infection through food. Dmochowski has found tubercle bacilli also in the lymph-vessels between the tonsils and diseased neck glands. Other modes of access to the neck glands are through the mucous membrane of the mouth and nose and through the tongue follicles.

With regard to the mode by which the bacillus passes through the mucous membrane there is some uncertainty. Since the organism is non-motile it is obvious that it cannot effect an entrance through its own initiative, and the probability is that it gets taken up by the leucocytes and so carried through the mucous wall into the lymphatics, and there, overpowering its host and finding a suitable resting-place, multiplies and starts the disease. It is found that injured or inflamed mucous membranes give a more easy access to the disease than those in health, partly on account of the local conditions in the mucous membrane, and partly that the lymph-glands draining them, being choked with inflammatory material, are in a less favourable condition to cope with the enemy. For this reason an unhealthy condition of the tonsils or mouth leading to inflammatory enlargement of the neck glands is a condition of some danger in childhood, and this also explains the great frequency of tuberculosis of the thoracic lymph-glands and secondarily of the lungs following measles and whooping-cough, for in these diseases we have a prolonged catarrh of the air-tubes, weakening the resistance of their mucous membranes and of the glands draining them to the inroads of the bacillus.

From the lymph-glands the disease may spread in any of three ways:

(*a*) By contact.

(*b*) By lymphatics.

(*c*) By the blood-stream.

Of these the first two ways are the commonest, and on this account the situation of the primary lesion is of very great importance in the prognosis of the case. In the neck, it is obvious, they are well within reach and but little damage can be done, and for this reason scrofula is the least serious of all tubercular lesions in children. The glands generally become adherent to one another and to the skin, and open on the surface; but the disease may spread down the neck by lymphatic channels and infect the thoracic glands, although this, in my experience, very rarely happens. The spread from cervical glands by the blood-stream is also very rare.

The *thoracic* glands, on the other hand, are very dangerously situated, and form the oldest focus of disease in 50 per cent. or more of the cases of fatal tuberculosis in children. The thoracic glands which are of importance to us in this respect are the tracheal and bronchial glands, and their distribution is as follows:—The *tracheal* glands lie on each side of the trachea, and are thus in close proximity to the apex of the lung. Round the root of the lung are the *bronchial* glands, and just below the bifurcation of the trachea is a large glandular mass, which we may call the *bifurcation* gland. This is triangular in shape, and is sometimes separated into two or three individual glands, but more generally single. It lies, in my experience, nearer the right bronchus than the left, and if diseased is most often adherent to the right bronchus or right lung. Besides these, small glands, the pulmonary glands, accompany the bronchi up to their fourth division into the lungs, and in tuberculosis are often seen as caseous masses embedded in the substance of the lung near its root.

Of these glands in children those most commonly diseased are the bifurcation gland and the tracheal and bronchial glands on the right side. The reason why the glands are more commonly diseased on the right than the left side is difficult to decide. The greater capacity of the right lung over the left and the consequent greater air entry may contribute to this result. Also the reasons which cause a foreign body more commonly to enter the right bronchus, namely, its greater sectional area and the inclination of the spur at the tracheal bifurcation to the left side, may exert some influence on the side on which inhaled dust would tend to alight.

The diseased glands become very large, caseate, and tend to adhere to the tissues around, either to the lung, causing a caseating focus from which the disease spreads through the lymphatics, or to the air-tubes, into which they may open and cause an aspiration tuberculosis of the lungs, or to the pulmonary veins which may spread the disease hrough the blood-stream. If not by contact, the disease may be carried to the lung by lymphatics. In health the lymph-stream runs, of course, from the lung towards the glands at its root, but when a gland becomes blocked by caseous changes the anastomosis of lymphatics is so complete that the stream is drawn outwards into side channels towards other glands, and so, as Professor Sims Woodhead has pointed out, the disease may be carried out from the gland into the lung. Very commonly from the bronchial glands the disease spreads outwards, first into the pulmonary glands; these become caseous, and being embedded in the substance of the lung are a fertile source of lung infection.

The appearances seen in the lungs are very various. There may be several firm caseous "blocks" in the lung at various points, and tubercles, small or large, scattered through the rest of the lung. These "blocks," I think, often represent the primary focus of infection, and are older than the caseous lymph-glands. The arrangement of the tubercles in lymphatic distribution is generally indistinguishable from that in blood distribution, but when the disease is spread through the air-tubes the appearances are characteristic; there are racemose collections of tubercles—the peribronchial tubercles—scattered through the lung. Each collection may be, perhaps, about the size of a pea; in some the tubercles are running together and softening, or in a further stage cavities may be found, or softened areas not yet cleared through the air-passages.

By far the most common ending of these cases of caseation of the thoracic glands is acute general tuberculosis, and this is so distinctive a feature of the disease in childhood that I will describe the appearances commonly met with. At the root of the lungs, on dissecting the œsophagus from the overlying pericardium and trachea, are found large, firm glands; the bifurcation gland may be as large as a pigeon's egg, and the tracheal and bronchial glands may form firm masses like bunches of grapes. On section these glands are generally firm, yellow, and caseous, and their core may often be scraped out with the handle of a forceps, or there may be still enough gland tissue left to hold it in place. Sometimes one or more glands are quite softened. The lung may be firm, dark, and engorged, and delicate grey tubercles are closely scattered over the surface and through the substance. If the tubercles are few in number there is less firmness and engorgement. The tubercles lie in the lines of the interlobular septa or in the interalveolar connective tissue. They appear dark off the emphysematous parts, and light off the dark collapsed and engorged areas. Occasionally may be seen racemose collections of grey tubercles like those seen in the inhalation process; these are probably deposited in the branches of the end arteries accompanying the bronchioles to the acini. Besides these recent tubercles it is very common to find an old, firm, caseous "block" somewhere in the lung substance, generally at the surface in one of the thin edges of the lung or in the middle lobe. Elsewhere throughout the body are scattered miliary tubercles, whose appearance differs somewhat according to the organ in which they develop; thus in the liver they are usually very small, grey, and difficult to

see, and may be microscopic only; in the spleen they are often larger than elsewhere, thickly sown throughout, and tend to be whitish in appearance; in the kidneys they are usually few in number, white, and often surrounded by a pale zone.

In acute general tuberculosis the bacilli, of course, are carried by the blood-stream, and to cause such an appearance as that above described it is obvious that a large quantity of the *materies morbi* must enter the vessels. There are two ways in which this occurs:

(1) By tubercular disease of the thoracic duct.

(2) By tuberculosis of a vein wall.

Tuberculosis of the thoracic duct was first discovered by Ponfick in the year 1877. The infection is carried to the duct either by the lymphatics from some glandular focus or by direct contact from the glands overlying it, and from the diseased duct-wall bacilli pass in numbers up the duct into the left axillary vein, by the right side of the heart to the lungs, and through their capillaries to the general circulation.

Tuberculosis of vein-walls, tubercular phlebitis, was first demonstrated by Weigert in the same year as Ponfick's discovery, and in *Virchow's Archiv* for 1882 he describes the lesions found in many cases of general tuberculosis examined. In a half of these cases tuberculosis of branches of the pulmonary vein was discovered, and in the rest of the cases disease of other veins—the splenic, the jugular, and, in a case of Addison's disease, the supra-renal vein. The lesion takes the form of a long thrombus, attached at one point to the vessel-wall and spreading along the veins, thus forming a kind of polypoid growth. The disease spreads to the vein-wall from a neighbouring tubercular area, generally an adherent gland, outside the vessel, and through the wall to its interior. If the vessel is small it is obliterated, and the disease, as a consequence, remains localised; but if the vessel is large its lumen is not closed, and the bacilli are carried away by the blood-stream to find "fresh fields and pastures new" in distant parts of the host. The larger the focus in the vein the more severe the general infection. Miliary tubercles also may be found in the intima of veins, and are due to infection from the blood-stream, as are miliary tubercles elsewhere, being deposited either on the inner wall or from the vasa vasorum in its coats.

Besides the acute general tuberculosis above described there is a chronic general tuberculosis in which, at the post-mortem examination, larger caseous tubercles are found scattered through the organs. This is most commonly found in infants below the age of two years, and runs a longer course than the acute disease, perhaps two months. When the source of infection in the blood is not rich, a quite limited deposit of tubercles may be scattered through the organs without causing death, and in cases of death from acute tuberculosis it is not uncommon to find evidences of such a process in a sprinkling of caseous tubercles of an older growth than the thickly-sown grey tubercles which caused the fatal issue.

Accompanying acute tuberculosis, in a large proportion of cases in children, is a development of miliary tubercles at the base of the brain with meningitis.

Tubercular meningitis is rare in the first year of life, more common at two years, but always secondary to lung tubercle; at three years it is said to be present in half the deaths from tuberculosis, and later on it may be secondary to limited disease of bones or glands.

Besides tubercular meningitis one may occasionally find caseous masses, from the size of a cherry-stone to that of a cherry, embedded in the brain substance. Their presence is often not suspected till they are found at the post-mortem examination, and in most cases they cause no symptoms. They are generally mulberry-shaped, firm and caseous, and bright green on section instead of yellow, as are caseous tubercles elsewhere.

We now come to the subject of *abdominal tuberculosis*, about the relation of milk to which there has been so much discussion of late years. In adults with phthisis the sputum, as you know, is teeming with bacilli, and, since this is often swallowed, millions of these organisms must pass through the intestines daily, and yet we find that abdominal tuberculosis as a complication of phthisis is, in adults, the exception rather than the rule. In children quite the opposite is the case. In cases of tuberculosis of the lungs, in which the bacilli can, by any chance, be coughed up and swallowed, either tubercular ulceration of the intestine with caseous foci in the mesenteric glands, or tuberculosis of the glands without intestinal ulceration is the almost invariable result. For some unknown reason the intestine of the adult is highly resistent, the intestine of the child comparatively susceptible to the passage or growth of the tubercle bacillus; or perhaps the secret may lie in the difference in destructive power of the gastric juice in the two cases. Another explanation for this, offered by Dr. Nathan Raw, will be referred to later. But these are cases of abdominal tuberculosis secondary to tubercular disease elsewhere. How about primary abdominal tuberculosis?

A case must be regarded as primarily abdominal when the *oldest* focus or the *only* focus of disease is situated in the abdominal organs, generally the intestine as ulceration, or the mesenteric glands as caseous foci.

Does this commonly occur? In Germany, at least, according to Koch it appears to be rare.

I have looked up the tubercular cases from a year's post-mortem examinations, made by myself at Shadwell Hospital, with the following results:

Out of 218 post-mortems there have been 39 on cases of tuberculosis, and of these 5, or 12·8 per cent., have been primary abdominal cases. Of these 5 cases 1 was below the age of two years, and the other 4 were older.

Ashby and Wright, in their book on children's diseases, give a percentage of 12—13, which agrees closely with that given above; but Dr. Still, among the post-mortems on tubercular cases at Great Ormond Street, finds no less than 29·1 per cent. primarily abdominal, and these figures are closely paralleled by Dr. Shennan's 28·1 per cent. for the Edinburgh Children's Hospital.

No doubt the disparity in these figures depends largely on difference of opinion as to what cases should or should not be called primarily abdominal; in many cases, certainly, it is practically impossible to decide which is the oldest focus of disease.

To these fatal cases must be added, doubtless, many cases of tubercular peritonitis which progress to recovery, so it appears certain that a fair proportion of primary abdominal cases do occur.

How are we to account for these?

At the meeting of the Tuberculosis Congress in London in July, 1901, Professor Robert Koch delivered an address in which he stated his opinion that cattle and certain other animals were insusceptible to human tuberculosis, and that, conversely, man was in all probability insusceptible to bovine tuberculosis. The first proposition was supported by experiments; the second was to some extent an assumption based on the first.

The experiments were as follows:—Nineteen young cattle, which did not react to the tuberculin test, and consequently were presumed to be tubercle-free, were inoculated with human tubercular sputum in various ways:

(*a*) By subcutaneous injections.
(*b*) By intra-peritoneal injections.
(*c*) By intra-venous injections into the jugular vein.
(*d*) By feeding with the sputum.
(*e*) By inhalation of dried sputum.

After six to eight months the cattle were slaughtered, and none were found tuberculous with one exception to be presently mentioned. The same experiments were performed with bovine tubercular sputum, and all after one week showed signs of infection, and dying or being slaughtered after one and a half to three months were found to be tuberculous. The same experiments were repeated with six young swine, and also with asses, sheep, and goats with a similar result. Moreover Koch quotes in confirmation experiments made formerly by Chauveau, Günther, Harms, and Bollinger, and more recently by Smith, Binwiddle, Frothingham, and Repp in America.

Quite contrary results, on the other hand, have been obtained by other experimenters—Delépine, Klebs, Nocard, Behring, and Professor Hamilton, of Aberdeen. The last of these is still pursuing his investigations, and the details of his results are not yet published.

In the *Lancet* for August, 1901, Dr. Ravenel, of Pennsylvania, who has had exceptional opportunities for experimental work in this department, describes some interesting experiments conducted by himself. First he insists on the distinction, now generally accepted, between bovine and human tuberculosis, and claims that the bacilli of the two varieties of disease can be distinguished by their cultural peculiarities. Next he shows that bovine tubercle is much more virulent than human tubercle for such small animals, the guinea-pig and rabbit, as are susceptible to both. Thereafter he describes experiments in which four out of five calves injected intra-peritoneally with tubercular sputum obtained from human adults contracted a mild tuberculosis.

It seems certain, therefore, that the immunity of cattle for human tuberculosis is at any rate not absolute, and, indeed, in one of Koch's own cases a tubercular focus appeared in the lung as the result of an inhalation experiment which makes his claim to a negative result somewhat doubtful.

For the sake of argument let us suppose that Koch is right, and that primary abdominal tuberculosis when it occurs is not due to infected milk. In the absence of this source is there any difficulty in accounting for these cases?

We accept the inhalation of dried human sputum as the main cause of other forms of tuberculosis; what becomes of these inhaled particles ultimately? Do they not all pass eventually into the alimentary canal? Those that have settled in the mouth and pharynx and those extruded from the bronchi and trachea by ciliary action and by coughing—all are eventually swallowed. Hence, if even half the cases of tuberculosis in children were primarily abdominal, milk infection being excluded, there would be no cause for wonder; indeed, it should be more wonderful to us that there are so few cases, seeing how readily, in children already tuberculous, the abdominal viscera become infected through the alimentary canal.

Dr. Koch takes pains to prove that primary abdominal tuberculosis is rare, but it seems to me that for his purpose such proof is needless, any percentage of cases claimed being readily accounted for by infection from human sources.

It is unfortunate that so little distinction appears to have been made between young adult cattle and calves in the inoculation experiments of various observers, since the calf may be susceptible where the adult animal is not. Many of the successful experiments seem to have been performed with calves, and Professor Hamilton speaks as if Koch's negative results also were obtained with calves, though Koch himself describes the animals used as "young cattle," presumably meaning *adult* cattle. That calves can be successfully inoculated there appears to be no doubt, and it seems that an increase of virulence is produced by inoculation from calf to calf, so that after five such transferences a general miliary tuberculosis may be set up. For this reason Professor Hamilton is inclined to

think that the difference between the human and bovine organism is one of degree of virulence rather than of kind.

In February of this year Dr. Nathan Raw read a paper before the Liverpool Medical Institution in which he attempted to show that the bacillus of bovine tuberculosis is very virulent to children. Dr. Raw has come to the conclusion that the type of tuberculosis which is peculiar to early childhood is nothing more or less than bovine tuberculosis.

How do his facts support this hypothesis?

Firstly, he cites cases supplied by Ravenel, Fibiger and Jensen, etc., in which inoculation from organs in abdominal tuberculosis of infants led to tuberculosis in calves. This he brings forward as evidence of the bovine source of the bacillus obtained on the assumption that cattle are not susceptible to human tubercle. The question of the susceptibility of adult cattle may still be open to doubt, but since calves have been successfully inoculated from phthisical sputum of human adults by Ravenel and others, it appears that calves at least certainly *are* susceptible to human tubercle, and so his conclusions from this source are untenable. If Koch's results could be fully established, then these experiments repeated with adult cattle might give very valuable results one way or the other. It is true that one cow was used by Fibiger and Jensen, but it was inoculated through one of the infected calves, and not directly from the human source, which greatly weakens the value of a result which, in any case, is isolated and unsupported.

The fact that abdominal tuberculosis (intestinal and glandular) is so much commoner in children than in adults seems to me no argument in favour of its causation by a different type of organism. In cases of phthisis in children, which should, according to Dr. Raw's arguments, be caused by the bacillus of human tubercle, we find that secondary abdominal tuberculosis nearly always occurs, showing that the infection of the abdominal organs in children must be due to a greater susceptibility than in adults, rather than to a difference of organism introduced. We cannot suppose, nor, I imagine, does Dr. Raw, that the phthisis of children has any different origin from that of adults. Moreover Dr. Raw's assertion that primary abdominal tuberculosis is most common below the age of one year, when most cow's milk is taken, would, I think, hardly be accepted by most. My own cases, too few in number truly to be of any statistical value, certainly show a quite other result.

At the International Conference on Tuberculosis in Berlin Dr. Koch dealt critically with many of the cases brought forward as direct evidence of transmission from cattle to man either by milk or by direct inoculation. He pointed out that in the cases quoted other sources of infection were not and could not be excluded, and also that if milk were the means of transmission the cases should to some degree run in groups, instead of presenting isolated examples where all others exposed to infection had escaped. He also quotes the valuable statement of Baumgarten that the inoculation of cancer patients at Königsberg with virulent "Perlsucht" bacilli gave entirely negative results.

It is obvious, from the contradictory opinions at present held, that much work and observation is still needed on the subject of the communicability of human and bovine tuberculosis to cattle and man respectively before any satisfactory conclusion can be come to on the subject, and it is especially needed that Koch's experiments on adult cattle be repeated. The conclusions one is tempted to draw from the material at the present time available are, firstly, that human and bovine tuberculosis are closely allied but not identical; secondly, that inoculation from cattle to man and from man to cattle is possible, but that such seldom occurs, each being somewhat insusceptible of the variety of the disease in the other; and lastly, that most cases of primary abdominal tuberculosis may be, and perhaps should be, otherwise explained than by infection from bovines through milk.

With the intention of giving some illustration of the contents of my paper, I have looked through the post-mortem records and made a rough analysis of the cases of tuberculosis occurring among the first 100 post-mortem examinations made by myself at Shadwell Hospital. Of these 100 cases 23 (*i. e.* 23 per cent.) were cases of tuberculosis, and the majority of these died of their tubercular affection; 13 of them were infants under 2 years of age, and of the remainder, 9 were under 6 years and one older, namely 10 years of age.

Of the cases under 2 years of age 8, or nearly 75 per cent., died of general tuberculosis secondary to disease in the thoracic glands, 2 died with acute lung tubercle secondary to disease in the thoracic glands but without a general infection, and the remaining cases are of special interest.

CASE 2.—A child of 10 months, which had suffered with diarrhœa and vomiting, and had been wasting for seven months. At the post-mortem examination it was found to have a primary phthisis of chronic type. In the lungs were several cavities, up to the size of a walnut, with considerable development of fibrous tissue. There was no general tuberculosis. The striking feature of this case is the fact that, in spite of the advanced lung disease, no history of cough or symptoms pointing to affection of the lungs was obtained.

CASE 5.—A case of primary abdominal tuberculosis beginning in the retro-peritoneal glands and passing on to general peritonitis. There was no intestinal ulceration and no disease of the thoracic lymph-glands.

Of the 10 cases over 2 years of age 2 were cases of true phthisis. In one of these, a boy of 5 years, there

were also caseating tubercles scattered through the organs, and ulceration of the intestine. In the brain were many caseous nodules from the size of a cherry-stone to that of a cherry. The duration of the disease was six months. In the other case, æt. 10 years, there were also advanced intestinal ulceration and caseous mesenteric glands.

Three were cases of general tuberculosis secondary to disease of the thoracic glands. Of these one was of special interest. The general tuberculosis was chronic, and the tubercles mostly as large as peas. A mass of caseous glands surrounded and narrowed the left bronchus, and the bifurcation gland had ulcerated through into the œsophagus. The result of this was an unusual influx of tuberculous material into the alimentary canal, leading to tubercular ulceration of the stomach, as well as of the intestine and mesenteric glands.

One was a case of tubercular disease, primary in the bifurcation gland, with tubercular pleurisy on the right side from contiguity. Death was due to tubercular meningitis.

One was a child, æt. 4 years, with hip disease. There were old, gritty right tracheal glands, probably older than the joint lesion. Death was due to tubercular meningitis and general tuberculosis, and there were several mulberry-shaped caseous masses in the brain.

Lastly, comes another case of primary abdominal tuberculosis, making 2 out of the 23 cases, or 8·7 per cent. The disease was confined to the abdomen; there was advanced intestinal ulceration with matted intestines due to a limited peritonitis, and there were caseous foci in the mesenteric glands.

A Case of Idiopathic General Peritonitis.

By W. D. Harmer, M.C.Cantab., F.R.C.S.

W—, æt. 19, was admitted to the Metropolitan Hospital with symptoms of acute general peritonitis.

The history of the patient, who was a servant, was as follows:—She had suffered from chronic constipation for many years, and during the ten days previous to admission this had been worse.

Her periods had recently been irregular and diminished. The last period commenced two days before admission and stopped suddenly. She was then seized with severe abdominal pains accompanied by vomiting. There was a doubtful history of vaginal discharge during the last week; nothing else of importance.

On admission she was found to be anæmic, very restless, and somewhat hysterical; her face was drawn, pale, and her skin cold and sweating. She lay with knees drawn up, and complained of severe abdominal pain. Her pulse was irregular, wiry, and varied between 130 and 150; her respirations were 40 and her temperature 101·2°. She was constantly retching and bringing up watery fluid at short intervals; there was no hiccough.

On examining the abdomen it was found to be distended, and not to move with respiration. There was extreme tenderness, especially below the umbilicus, but nothing could be felt owing to the tense condition of the abdominal muscles. There was tympanites all over the abdomen, and the liver dulness was diminished.

It seemed obvious that the condition was one of acute general peritonitis, and probable that this was caused by inflammation either of the Fallopian tubes or of the appendix. She was therefore given an anæsthetic, and an incision made in the middle line below the umbilicus. On opening the peritoneum free fluid escaped, which was yellowish in colour, and seemed to be pus. Two or three ounces of similar fluid were then found in Douglas's pouch, and were removed with sponges. A few recent adhesions between the coils of small intestine in this region were easily broken down.

The Fallopian tubes were next examined and found to be normal. The appendix was then drawn into the wound and seemed sound. The incision having been slightly enlarged in an upward direction the anterior surface of the stomach was examined, the lesser sac and gall-bladder were palpated, and the small intestine rapidly traced from its upper to its lower end, but without any result. As nothing could be discovered the pelvic peritoneum was again carefully sponged, and the abdominal wound closed with a single layer of sutures.

After the operation the temperature at once fell to normal, the pulse improved, all pain disappeared, the sickness stopped, and from this moment the patient made a rapid recovery.

Seen three months later she had gained a stone in weight, and said she was much better than before the operation.

Considering that all the signs of inflammation were limited to the lower portion of the abdomen, there was a probability that the infection was either through the tubes or from the appendix, although the latter appeared normal to the naked eye.

In favour of the first suggestion there was the history of irregular periods, and possibly of vaginal discharge, though nothing of the kind was noticed in the hospital. In addition the suppression of menstruation closely coincided with the onset of the abdominal symptoms. The conclusion that I formed was that it was a case of so-called "menstrual fever," such as is described by several authors.

Although no bacteriological examination was made of the pus in the abdomen, and therefore nothing more definite could be said, the above case seems to be sufficiently interesting to make it worthy of publication.

Two Cases of Enteric Fever in Children; Perforation; Laparotomy; Recovery.

By J. C. SALE, M.R.C.S.Eng., L.R.C.P.Lond., A. E. THOMAS, M.B.Lond., and S. R. SCOTT, F.R.C.S.Eng.

THE early recognition, in enteric fever, of such a fatal complication as perforation of the intestine is of the highest importance. It will be generally agreed that spontaneous recovery from this dreaded event is extremely rare, and until recent years we have been led to practically abandon hope, once the signs of perforation have become unmistakable.*

Recovery after abdominal section† has been recorded in a sufficient number of cases to direct special attention to the early signs of perforation; and it is now recognised that in the treatment of the complication under consideration, the only measure of any avail, and which has therefore gained an established place in medicine, is abdominal section.

CASE 1.—T. H. F—, the patient, a schoolboy æt. 10 years, was admitted to St. Bartholomew's Hospital, on June 27th, 1902, under the care of Sir William Church. The boy was well and at school until June 22nd, on which day he vomited and bled from the nose. From that date until the day of his admission he had been languid and out of sorts, constipated, and disinclined for food. When admitted he showed the usual signs of enteric fever, except that there were no spots. Widal's reaction was readily obtained. Dating from the onset of the first symptoms, the day of admission was estimated to be the sixth day of disease. During the second week of disease the boy went on well. His pulse did not exceed 104, and the temperature was on the decline. He had not been sick or in pain. On July 5th (fourteenth day of disease) his temperature at 7 a.m. was 100·4° F., and pulse 76. At 7 p.m. his temperature was 100·6° F., and pulse 84. At 8 p.m. he complained of abdominal pain, which, however, soon passed off, and he went to sleep. At 11 p.m. he awoke with more severe pain in the abdomen, and vomited several times. His temperature was 103° and pulse 100, slightly irregular in frequency. The abdomen moved with respiration, was soft, and only slightly tender on palpation. He was evidently getting worse, for at 11.30 p.m. the pulse had risen to 120, and an hour later to 132, while the temperature had fallen to 99° F. The pain, too, was more acute. The abdomen did not move so well, was less retracted, and becoming more rigid. *Per rectum* there was great tenderness in the recto-vesical pouch. A diagnosis of perforation of an abdominal viscus was then made. From this time until the operation, which followed, the patient was getting steadily much worse. He frequently shrieked with pain and vomited repeatedly. The abdomen became distended, very rigid, and quite immobile. Dr. Norman Moore saw the case for Sir William, and Mr. Waring operated for Mr. Butlin. Six a.m., when on the operating table, the pulse was 160—170, small, hard, and irregular. His temperature was 99·6°. A median laparotomy was performed under chloroform. At first a small exploratory opening was made, and the diagnosis was confirmed by the escape of gas and dark yellow viscid liquid, with a few white flakes, from the general peritoneal cavity. The incision was, therefore, enlarged, a coil of ileum presented, and, on being drawn out of the wound, a tag of great omentum was found adherent to the edge of a circular perforation ·5 cm. in diameter. The perforation was closed with eight fine silk sutures, introduced according to Lembert's method. The patient was turned on the side, and the liquid contents of the general peritoneal cavity allowed to run out. The abdominal wound was sutured with silkworm gut in one layer. The recto-vesical pouch was drained with a large rubber tube through the lower end of the wound, which was dressed with a Keith's dressing. The operation lasted twenty minutes. During the next twenty-four hours following the operation the patient remained in a very critical condition. His face was pinched up, the corners of his mouth were drawn, the eyeballs looked sunken and dull. His skin felt cold and clammy. The pulse was very weak and irregular. It averaged about 165 per minute. Often during the day it was uncountable, and at times it could not be felt at all. The respirations were between 50 and 60. The temperature was between 99° and 100°. He was very restless and peevish. His thirst was insatiable. Throughout that day and night following he continued to vomit green viscid fluid at short intervals. In spite of his almost hopeless condition by next morning he was better, but the after-treatment proved very difficult owing to his low and weak state, and it was several days before he could take proper nourishment. The superficial part of the wound gave way, and the healing process was very slow. Numerous boils then appeared over his shoulders, and lasting a week or two greatly increased his discomfort. Nevertheless, in the face of these disturbances, the boy gradually improved in general condition. Three weeks after the operation he returned to the medical wards, and on September 12th (a little over two months after perforation) he was sent to the convalescent home, and at the present time remains in perfect health.

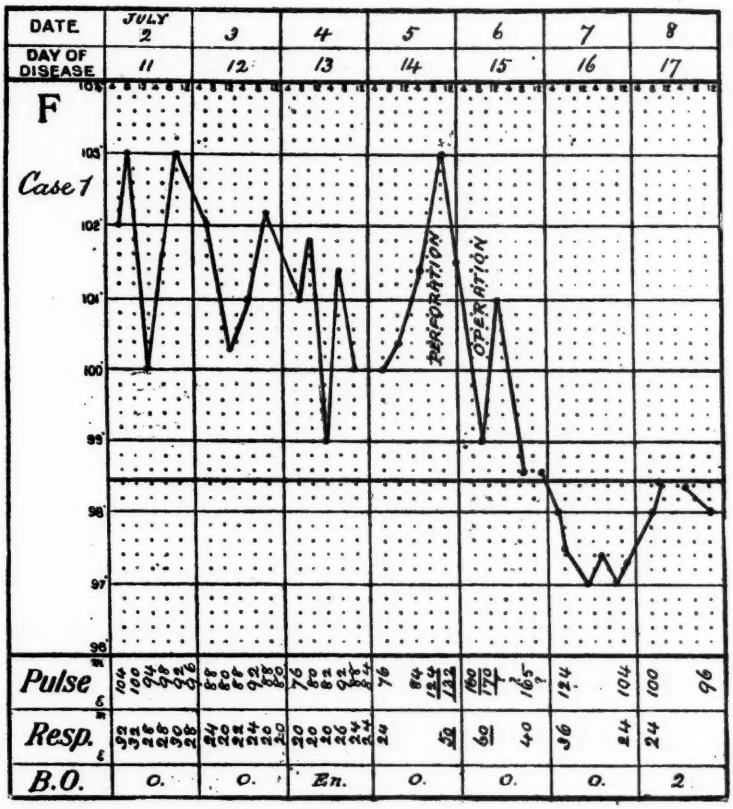
CASE 2.—This case was that of a little girl æt. 5 years.

L. M—, an unusually intelligent child, was admitted to St. Bartholomew's Hospital on the 7th July, 1902, under the care of Sir Dyce Duckworth. Before admission she had been at home a fortnight, with symptoms of general malaise. During the first week there had been diarrhœa, and during the second week constipation. On the day of

* Murchison.

† *Complications of Typhoid Fever*, Hare, 1899.

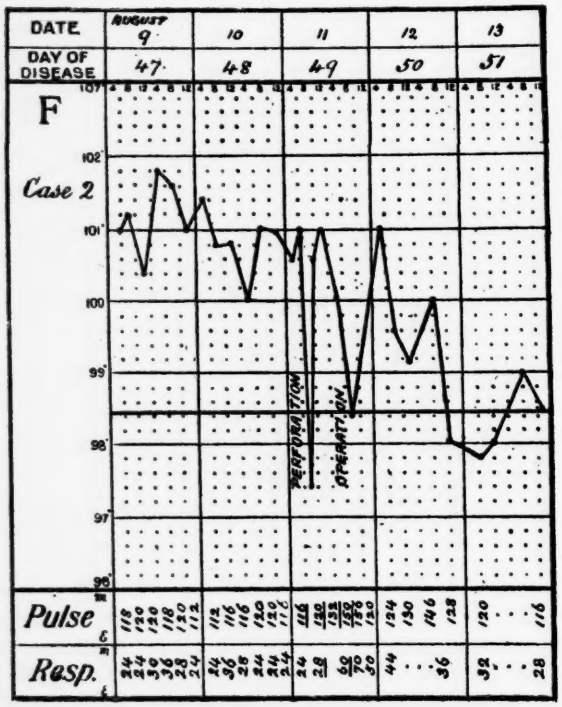
admission (fourteenth day of disease) the temperature was 103·4° F., her pulse was 144, and respirations 28. She had some cough and the usual symptoms of enteric fever. Widal's reaction was positive. The pulse nearly always ranged over 100. Before perforation took place the disease ran a favourable though protracted course. The temperature did not come down until the 18th July. It remained normal for a week only, and then the patient had a relapse, on the eighteenth day of which the symptoms of perforation occurred. The two previous days the temperature had she vomited once, but she did not seem to be in much pain. At 10.30 a.m. her pulse had risen to 132, and shortly after to 150. The temperature was 100·6° F. There was no pallor to denote internal hæmorrhage, and still she was not in much pain. The abdomen was full but not distended, though tympanitic. It was a little tender and slightly rigid. An hour later there was some temporary improvement. The pulse was 130, and the tenderness seemed a little less. But the pulse again rose to 150, and the abdominal symptoms not having abated,



shown a falling tendency, but still remained above 100°. The child was taking her food well. She had not been sick or in pain.

On 11th August the early morning temperature was 101° F., her pulse 116, and respiration 24. At 7.30 a.m. her temperature was found to be 97·5°, and her pulse was 120. Nothing at the time could be discovered to account for this sudden fall of three and a half degrees of temperature. However, about 9 a.m. the child was noticed to be holding her hands to her abdomen, and on being questioned she said it was sore. Soon after this Dr. Ormerod, who was on duty for Sir Dyce, asked Mr. Butlin to see the patient with him, and it was decided that a very small exploratory incision should be made in order to determine the presence or otherwise of free liquid and gas in the peritoneal cavity. Accordingly at 2.45 p.m. the child was removed to the theatre and anæsthetised with chloroform. A small opening was made in the right linea semilunaris below the umbilicus. Only a very little clear liquid escaped from the general peritoneal cavity, but on gently separating the coils of intestine with the finger considerably more liquid escaped, and this was accompanied

by gas. The diagnosis in this way having been made clear, the abdominal wound was enlarged to two inches, and the ileum was examined inch by inch from the ileo-cæcal valve. About eighteen inches from the cæcum a pinhole perforation was discovered, though with difficulty, for there was no omental adhesion to serve as a guide, and it was in fact necessary to apply slight pressure to the intestine to bring the little aperture into view. The perforation was closed with fine silk Lembert sutures. The liquid was soaked up with sponges from the general cavity of the peritoneum. A tube was passed down to Douglas's pouch. A second drainage-tube was passed through a counter-incision in the right loin. The operation was well borne. The wound having been dry-



dressed, the patient was sent back to bed. At 5.30 p.m. she had so much recovered from the anæsthetic that she played with her doll, and noticing the time, asked for her brandy. The pulse was 120, and respirations 52. She passed a good night. Next afternoon she did not appear nearly so well. Her pulse had gone up to 144, and she wore a pinched expression. Fearing lest the drainage was insufficient, Mr. Butlin made a counter-incision in the left loin, passing a tube from the front, while the patient was anæsthetised in bed. After this she was better, but owing to the weakness of the child, and the difficulty of nourishing her on account of her typhoid fever and troublesome distension of the bowels, the healing of the wound was interfered with, so that it broke open in front on the seventh day, allowing of the escape of intestine. This condition was discovered within a few hours; a little chloroform was at once administered, and the intestine returned; the edges of the wound were cleansed and brought together with a final happy result, and eventually she made a complete recovery, and is now quite strong and well.

Not the least interesting fact concerning these cases is that both were children. The rarity of perforation in a child five years of age is remarkable; and we have not been able to find a successful case of laparotomy in enteric fever for perforation in a child so young.* It is noteworthy that these cases were operated upon within the seventh and eight hour respectively after the first symptoms of perforation. A certain diagnosis was not easy to arrive at, more especially in the little girl, but the signs were sufficiently pronounced to justify an exploratory incision on the ground that if, in the event of perforation, time was allowed to elapse for the peritonitis to become unmistakable, there would have been far less chance of saving the child. During the operation in the second case the fact that the liquid and gas were concealed by the intestines is important as showing the necessity of inserting the finger.

These cases serve to show that even in children so young and weak, however hopeless appearances may be, the operation should be undertaken.

For permission to publish the foregoing cases, and for being enabled to make use of the notes taken when the patients were under their respective care, we are indebted to Sir William Church, Sir Dyce Duckworth, and Mr. Butlin, as well as to Dr. Norman Moore, Dr. Ormerod, and Mr. Waring.

On Rigors associated with the Passage of Bodies through the Cervix Uteri.

By E. HENDERSON HUNT, M.B., B.Ch.

THE following three cases are of interest as showing the possibility of the occurrence of rigors during the passage of bodies through the cervix uteri. These rigors seemed very similar to "catheter rigors," and to those which occasionally occur during the passage of gall-stones and renal stones. Sepsis may or may not play a part in the process; in the case of M. H— it seemed to be a purely reflex nervous phenomenon.

1. M. K—, æt. 34. Last child (of four), born November, 1901. Sent up by a doctor on February 2nd, 1903, as a case of "placenta prævia." The uterus reached to one inch from the navel. The vaginal bleeding was slight, but

* Mr. Bowlby recorded a case of recovery in a boy aged ten, *Trans. Clin. Soc.*, 1902.

continued occasionally, although she was kept in bed for about five weeks.

On March 6th the uterus was of the same size as on February 2nd, so that it was evident that the fœtus was dead. A laminaria tent, carefully sterilised, was passed into the cervix, and on March 7th this was replaced by three more. She shortly had a rigor, the temperature rising to 103·6°, and a dead fœtus and old blood-clot were afterwards removed from the vagina. The only other occasion when the temperature was up was on the 9th, when it rose for an hour or two to 100·4°.

2. M. H—, æt. 24. Admitted to Martha on September 25th, 1902, complaining of bleeding from the vagina. Last child, March, 1902. Catamenia regular till August, since when she has had irregular bleeding.

The *cervix* is lacerated. There is a rough, red, granular, and easily bleeding surface surrounding the external os. A microscopical examination of this showed it to be a non-malignant adenoma.

On October 6th this surface was scraped and cauterised with the actual cautery. She remained quite well until the 12th, when she had a rigor at midday, with a temperature of 105·2°, followed by two more at 3 and 7 p.m., the temperature being 103·4° and 104·6°. At 6.30 a.m. on the 13th she passed a fœtus of about three weeks, followed by another rigor; temp. 105·8°. The decidua was removed under an anæsthetic, and the temperature remained afterwards subnormal.

This case is particularly interesting as the rigors only occurred in immediate connection with the passage of the small fœtus through the cauterised cervix, and the temperature was only raised at the time of the rigors. The pregnancy was, of course, unsuspected, as there was no possibility of diagnosing it.

3. M. G—, æt. 39. Admitted on February 19th, 1903, suffering from pyrexia following a miscarriage on February 10th. The placenta had been removed by the doctor who sent her up. She was very anæmic. The uterus seemed to be involuting normally, but the temperature varied between 104° and 99°. Her general condition continued about the same until the 25th, when she passed a clot, and had a rigor, with a temperature of 105°. A second clot was similarly accompanied by a rigor, with a temperature of 106·6°. She then died after a further comparatively small hæmorrhage in spite of saline infusions, etc. Post mortem, a small, rough tag of placenta was found in the uterus.

In this case, as in the others, the rigors only occurred during or immediately after the passage of a clot.

Thus, to recapitulate, we have three cases in which the immediate cause of rigors was, respectively, the stretching of the cervix by tents, the passage of a fœtus, and the passage of blood-clots. I can find no reference in the ordinary text-books to such rigors, and therefore think it is worth while to draw attention to them.

Notes.

Sir Dyce Duckworth has been appointed delegate of the Medical School of St. Bartholomew's and of the Royal Medical and Chirurgical Society to the Fourteenth International Medical Congress at Madrid.

* * *

We have entered the empty moment in the year as regards Hospital news and activities—the winter sports are finished, the summer ones not yet begun; the Abernethian Society has suspended its admirable labours, and Clinical Lectures are for the moment absent. All this means considerable difficulty in getting enough material to fill the Journal. We should like to remind our readers who are in practice that we always welcome contributions from them, and to assure them that anything of interest that they may think worth recording will receive our most serious attention.

* * *

There has long been a feeling amongst Bart.'s men that it would be highly desirable to foster the *esprit de corps* that exists in the Hospital by the foundation of a Students' Union, and it was felt that this is a propitious moment in the Hospital history for some such association to come into being, and this for two reasons. First, it was felt that the existence of such an association would very much strengthen the hands of those who were devoting their time and energies to the consideration of the improvement and development of the Hospital in connection with the new buildings; secondly, it is essential that in the various schemes that are now under consideration the needs of the students in the matter of proper accommodation for club-rooms, and, if possible, for a new resident college, should be impressed upon those in authority.

* * *

With these ideas a general meeting of students was held in the Anatomical Theatre, at which the main proposals were explained by Dr. Eustace Talbot, who was in the chair, and a committee of three appointed to inquire into the best form such an association should take. This committee consisted of Mr. Hogarth, as representative of Oxford and Cambridge, Mr. Neligan as representative of the London University, and Mr. Crawford as representing the Colleges. These three gentlemen have been collecting evidence from the other hospitals as to the constitution of these various students' unions, and the accommodation they require, and they purpose shortly to lay their results before the Medical Council. It is hoped that when the buildings and the new arrangements are finally settled, the students' association will take definite form, and we feel confident that such a union will prove highly beneficial to the best interests of the Hospital.

* * *

THE Junior Scholarships in Anatomy and Biology have been awarded to E. M. Woodman and G. T. Burke.

* * *

F. B. AMBLER has gained the Senior Scholarship in Anatomy, Physiology, and Chemistry.

* * *

THE Wix Prize has been awarded to J. M. Hamill.

* * *

DR. LLEWELLYN C. P. PHILLIPS has been admitted a Member of the Royal College of Physicians.

* * *

THE Past *v.* Present Cricket Match will be played on Wednesday, June 3rd. The secretaries will be glad if all old Bart.'s men desirous of playing will send their names to H. E. G. Boyle, Resident Quarters, St. Bartholomew's Hospital.

* * *

THE first prize for the Jacksonian Essay has been awarded to Mr. T. Crisp English, of St. George's; Mr. Rawling was second, and so highly did the Council think of his essay that they paid him the unusual compliment of granting him a honorarium, and a certificate declaratory of their appreciation of his work. It is disappointing that St. Bart.'s should not have gained the first prize, but under the circumstances we may offer Mr. Rawling our heartiest congratulations.

* * *

THE combined dinner of the Oxford and Cambridge medical graduates' clubs will take place on May 13th. Dr. Dickinson, of St. George's, will be in the chair.

* * *

EVERYBODY will be glad to hear that the last accounts of Sister Faith are most encouraging, and she seems now to be really convalescing after her long and very dangerous illness.

Amalgamated Clubs.

SWIMMING CLUB.

At the general meeting held on February 20th the following were elected as officers for 1903:

President.—Howard Marsh, Esq., F.R.C.S.

Vice-Presidents.—W. P. Herringham, Esq., M.D.; W. Fay Bennett, Esq., M.R.C.S., L.R.C.P.; A. H. Bloxham, Esq.; P. J. Furnivall, Esq., M.R.C.S., L.R.C.P.; A. M. Amsler, Esq., M.R.C.S., L.R.C.P.

Captain.—J. G. Watkins.

Hon. Sec.—R. C. P. McDonagh.

Committee.—F. E. Taylor, H. M. Hanschell, C. F. O. White, H. N. Wright, E. G. Milson, G. F. Page, P. Gosse.

MATCHES.

Mon., May	4	Trial Match.
Fri.,	8	Ealing S.C.
Sat.,	16	Cambridge University.
Mon.,	18	
Fri.,	29	Ealing S.C.
Sat., June	13	Cambridge University.
Mon.,	22	Richmond S.C.
Mon., July	13	Nautilus S.C.
Mon.,	20	London Scottish S.C.
Fri.,	24	Richmond S.C.
Wed.,	29	Nautilus S.C.

The headquarters will be Holborn Baths, Broad Street, W.C., and practices will be held there daily at 4 p.m.

We hope that members, and especially Freshmen, will turn up as regularly as possible.

It is particularly requested that men turn up to the races and matches and all practices punctually, as last year so much time was lost owing to unpunctuality.

PROSPECTS FOR THE SEASON.

In any previous year our prospects would have looked particularly bright. We have all our last year's men able to play for us, except R. I. Douglas. In addition there is some new blood in Gourlay, who has played, though not regularly, for Cambridge, and C. Elliot, who, with a little practice, should be a valuable addition to the Club. Our captain of last year, Stone, is still in London, and will in all probability be able to play for us. It is, however, doubtful if McDonagh, our secretary, who has crocked his knee, will be in a fit condition to play, at any rate till after the first round of the Cup tie. We have, I think, only one hospital to fear, and that is Thomas's, who took the Cup from Bart.'s last year by one goal to *nil*. Besides Wallace, the Welsh international, they have left from last year two representatives of the United, and among their recruits are Dean, last year President of the O.U.S.C., and Cow, the captain of the Otter S.C., who has represented Cambridge for the last four years. On the whole they will probably have a team quite equal to the average United Hospital side, and we shall have to practise very hard indeed if we want to beat them. What our team chiefly wants is combination. The backs lack precision in passing, and the forwards ought to practise the "trick-work" as well as accurate shooting. It is absurd that with so many swimmers in the Hospital, and in a game in which Bart.'s has won such prestige, we cannot get enough men to come to practice, even to get up a scratch game of five a side. This year our headquarters are at the Endell Street Baths, High Holborn, so the stock excuse of being "too far to go" is quite unavailable. Of our present team, Hanschell is a splendid goalkeeper, who always keeps his eye on the game, and is quick to rise to emergencies; White and McDonagh are most trustworthy backs, while Stone, with his speed, makes an excellent centre forward when in practice. The season commences on May 8th with a match against Ealing, but we hope to put in a good many practices before that date. With regard to the Team-race Cup, we were defeated by Westminster last year by a touch. They are not to be feared much this season, as their speedy man, Hughes, is out of his year, but Thomas's will have a very hot team. We want to get a really representative team, and strongly urge men who can swim, but are prevented from playing water-polo by cricket or other cause, to come down and have their times taken. The distance is only sixty yards for each man, and it is high time the Cup found a resting-place in our library, for from its presentation, in 1897, it has been held by Mary's until last year.

HOCKEY CLUB.

REVIEW OF THE PAST SEASON.

The past season has not altogether been an unsuccessful one, as some people seem to imagine. The first XI have played 24 matches; won 11, lost 12, and drawn 1. The wins include Mr. E. H. Green's XI (a scratch team got together by one of the best forwards in the English team). The so-called scratch side consisted principally of the Staines team (a team which holds the championship of the south with 18 games and 18 wins). The Hospital wins also include the R.A., Epsom College, and last, but by no means least, the Inter-Hospital championship. In the championship competition we beat Guy's in the first round after a good game. In the second round we beat London easily, and then we wound up the final round with a

glorious win over Thomas's after a very hard-fought game. Our defeats include those by such strong sides as Croydon and the R.M.A. We scored 77 goals against 95, W. B. Griffin being the principal goal getter with 27 to his credit. This year the second XI was revived, and they did very well, winning 5 matches against 2 losses with 1 drawn game, and scoring 31 goals against 24 by their opponents. The first XI was rather handicapped by men playing for outside clubs, and it does seem a pity that men will not remember that if only they played regularly for the Hospital the Hospital would do better, play better clubs, and these men would get their hockey cheaper, and would also be brought into just as much public prominence (should that be their reason for playing outside the Hospital). One or two members of the team have realised this, and we hope others will soon follow suit. As regards the individual members of the team, Hill, as captain, has been a huge success. He has proved himself an admirable leader, shown great kindness to all in contact with him, and has kept his team well together. He has also shown himself to be a most useful half-back. Whitby in goal has improved wonderfully. It was his skilful defence which went a long way towards winning the Thomas's match. We hope he will be available for several seasons to come. Coalbank and Furber at back have neither played very regularly, but when they have played have both done good work. Barton, who has played regularly since Christmas, has been the greatest help to the team. He is a really fine half-back, with only one slight fault, and that on the right side, namely, that of over-keenness; he is consequently rather inclined to run his forwards off side. Page, the other half-back, has not played regularly, but we hear with pleasure that he is going to do so next year. He is a very hard-working useful half, but wants to get to know his forwards better. Griffin, the centre forward, has played very regularly, and done a lot of useful work. Glenny and Raikes, the two insides, have played but seldom, but when they have have been hosts in themselves, both playing very fine games in all three championship matches. Haines, the outside left, has been somewhat of a disappointment, hardly playing up to form except in the championship matches, when he played three really good games. Next year we hope to see him playing such games every Saturday. Gray, outside right, is fast, and has made every use of his pace. He is slightly inclined to muddle the ball, and also at times to be rather dangerous with regard to "sticks," but nevertheless, as a rule, he centres well—a great thing for a wing forward. Next year we hope to see the championship still in the possession of Bart.'s. Dr. H. Morley Fletcher as President has shown great interest in the club, and the club owe their best thanks to him; and we feel sure that should he consent to remain in office next year the club will have no lack of support from that quarter.

The Hospital Musical Society.

AN innovation in the annals of the Musical Society took place on February 24th, when the Hospital orchestra performed at a concert given to the inmates of St. Luke's Hospital. So successfully did the experiment turn out that it is to be hoped that this will be the first of many concerts run on the same lines.

Starting at 8 o'clock, the programme continued till nearly 11 o'clock, and from beginning to end one may safely say, judging from the heartiness of the applause and the demand for encores, there was no suspicion of "drag."

Mr. T. B. Davies, with his rich baritone voice, rendered his two songs extremely well, and was warmly encored; while his friend, Mr. E. E. Rudd, very cleverly gave us songs in the Devonshire dialect.

Mr. Baldwin once more taught us through his pianoforte solo what the Hospital will lose when he is compelled to leave us. As an accompanist, also, we are grateful to him, for not only is this a most difficult post to fill, but is always a "taken for granted," thankless task to perform.

Mr. Leedham gave two musical sketches which kept his audience in roars of laughter, and his imitation of a drum and fife band on the piano was as clever as it was humorous.

The Musical Society have indeed cause for self-congratulation on their latest acquisition, Mr. Holroyd. We heard of Mr. Holroyd's tenor voice long before he left Cambridge for Bart.'s, and we may say that he more than justifies the reputation which preceded him.

Five times the orchestra played during the evening, and it would be hard to say which item was most enjoyed.

It is now in its twenty-fifth year, and has never been in a more flourishing condition than it is at present. It numbers between thirty and forty members, and, unlike so many amateur orchestras, it is not made up of only violins and 'cellos, but is nicely balanced with wood and brass wind. However, we are far from satisfied, for we know that there are many men at Bart.'s who are musical, and would, if asked, be willing to join. With a hospital of our size there should be an orchestra of at least a hundred strong.

The annual subscription is only 5*s*., there is one practice a week, from 4.30 to 6 p.m. in the Inquest Room on Fridays, and though at present there are only three performances at the Hospital in the year, we are hoping in the near future to increase this number.

At present it is disbanded for the vacation, but due notice of its first meeting will be posted on the notice board at the top of the Smoking Room stairs.

Review.

A SYSTEM OF CLINICAL MEDICINE. By THOMAS D. SAVILL, M.D.Lond. Vol. i. (J. and A. Churchill, 1903. Pp. 702.)

We must congratulate Dr. Savill upon a bold undertaking. This work attempts much more than the books dealing with medical diagnosis merely, for sections upon prognosis and treatment and, where thought advisable, pathology also are introduced. Indeed, the work appears to be a treatise upon medicine, regarded chiefly from the clinical aspect. In this sense it offers a tempting field for any author of wide experience, but the task is a very difficult one.

The volume before us deals with "local diseases and microbic disorders," and is to be followed by a second volume, which will complete the work.

We will say at once that it has always seemed to us a misfortune that with our wealth of good text-books in medicine, few, if any, give us good clinical pictures of diseases. This was always a strong point with Fagge's work, but with most other books the portrayal of the patient's present condition resolved itself into a catalogue of symptoms and physical signs, and too often those that were rare followed upon those that were common so closely that the average reader got no clear conception of the usual state of things in the particular disease considered.

Dr. Savill gets over this difficulty, but it is at the risk of accuracy. Although he insists that his method is not a process of exclusion, but positive rather than negative, yet he plays the card of probability for all it is worth, sometimes, it seems to us, for considerably more. It is true that he introduces the word "probably" into many of the italicised sentences in which he sums up the diagnosis of given conditions, but this is by no means universal. Witness the following:

"*The patient, probably a male at or past middle life, is suddenly seized with severe 'constricting'* PAIN IN THE CHEST, *accompanied by a sense of suffocation; the disease is* ANGINA PECTORIS" (p. 78). If the word "probably" was inserted before the diagnosis instead of before the sex of the patient, the sentence would be a truer one than as it now reads. Other sentences are open to the same criticism.

Even the introduction of the word "probably" does not save several of the summaries from being dangerously untrue.

"*The patient is suddenly seized with an attack of 'palpitation,'* BUT WITHOUT ANY DEFINITE PAIN IN THE CHEST; *the disease is probably* PAROXYSMAL TACHYCARDIA" (p. 77).

In spite of these criticisms, however, the book deserves praise for its general get-up, and for its abundance of information and references. There are three sizes of type used, and perhaps the fact that some (to us) rather important sections are printed in the smallest type is explained by mere difference of opinion.

On page 1 the headline "A Clinical System of Medicine" is obviously an error.

Examinations.

CONJOINT BOARD.

Chemistry.—A. Hanau, G. F. Page, F. C. Searle.
Practical Pharmacy.—C. B. Hambling.
Elementary Biology.—O. H. Bowen, E. P. Carmody, R. H. Cotton, E. R. Evans, H. Gall, S. G. Greene, A. Hanau, F. T. Hancock, A. Miles, T. M. Miller, J. A. Renshaw, R. G. Riches, L. C. Wilkinson.
Anatomy and Physiology.—P. V. Bhatt, H. J. S. Kimbell.

Appointments.

CONOLLY, N. A. W., M.R.C.S., L.R.C.P., appointed Resident Obstetric Officer to the Bristol Royal Infirmary.

* * *

COPE, R., M.R.C.S., L.R.C.P., appointed House Surgeon to the Rotherham Hospital and Dispensary.

* * *

IRELAND, A. E., M.R.C.S., L.R.C.P., D.P.H.(Oxford), appointed Assistant Commissioner and Government Medical Officer to the Turks and Caicos Islands.

* * *

PICTON, L. J., B.A., M.B., B.Ch.(Oxon.), appointed House Physician to the Royal Infirmary, Liverpool.

* * *

ROBBS, C. H. D., B.A., M.B., appointed Deputy Coroner for the Grantham District of Kesteven.

New Addresses.

BAINBRIDGE, F. A., 10, Dentinck Street, Manchester Square.
CLARKE, FIELDING, Marlborough House, Tunbridge Wells.
GODWIN, H. J., 35, Southgate Street, Winchester.
MARK, LEONARD, 49, Oxford Terrace, Hyde Park, W.
MILLER, GEORGE, Whitehall, Forest Drive, Manor Park, E.
SANDILANDS, J. E., 9, Sussex Villas, Kensington, W.

Marriage.

ECCLES—ABBOTT.—On the 16th April, at St. John's Church, Eastbourne, by the Vicar, the Rev. Talbot Hindley, M.A., Herbert Annesley Eccles, M.D.Lond., of Greystoke, Upper Norwood, to Margarita May, daughter of John Abbott, of Mirasol, Eastbourne.